

Message Text

UNCLASSIFIED

PAGE 01 TOKYO 00428 120628Z
ACTION OES-06

INFO OCT-01 EA-09 ISO-00 COME-00 /016 W
-----120633Z 013782 /17

R 120612Z JAN 77
FM AMEMBASSY TOKYO
TO SECSTATE WASHDC 4660

UNCLAS TOKYO 0428

FOR OES/APT/SA

DEPT PASS TO NBS, G. LINDAMOOD

E.O. 11652: N/A
TAGS: TPHY, EQUIP, JA
SUBJECT: NEW ELECTRON BEAM RESIST MATERIAL FOR LSI DEVICES

1. RESEARCH INSTITUTE FOR POLYMERS AND TEXTILES, AGENCY OF INDUSTRIAL SCIENCE AND TECHNOLOGY, MITI, HAS ANNOUNCED DEVELOPMENT OF NEW PLASTIC WITH HIGH PHOTSENSITIVITY, SUITABLE FOR USE IN ELECTRON BEAM LITHOGRAPHY FOR PRODUCTION OF LSI'S. RESIN IS SAID TO BE COMPOSED OF METHACRYLIC ACID ESTER USING A BRANCHED ALKYL BASE OR CYCLOHEXYL BASE. MATERIAL IS SAID TO BE EASILY DISSOLVED AFTER IRRADIATION AND DOES NOT FORM BRIDGES OVER EXPOSED LINES. LINE PRECISION MAY BE OF ORDER OF 0.1 TO 0.5 MICROMETERS.

2. EMBASSY CHECK WITH INSTITUTE INDICATES THAT OPTIMUM ELECTRON DOSE FOR EXPOSURE IS 5 TIMES JQP TO THE MINUS 6 COULOMBS PER SQUARE CENTIMETER, A FACTOR OF 10 LOWER THAN THAT FOR CONVENTIONAL RESIST MATERIALS.

3. SUPER LSI ASSOCIATION HAS EXPRESSED INTEREST IN NEW MATERIAL AND IS PLANNING TO DEVELOP PRACTICAL TECHNOLOGY BASED ON IT, AS WELL AS ARRANGING FOR INTERNATIONAL PATENTS.
HODGSON

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NNN

Message Attributes

Automatic Decaptioning: X
Capture Date: 01-Jan-1994 12:00:00 am
Channel Indicators: n/a
Current Classification: UNCLASSIFIED
Concepts: TEXTILES, PLASTICS, RESEARCH, PHOTOGRAPHIC EQUIPMENT
Control Number: n/a
Copy: SINGLE
Sent Date: 12-Jan-1977 12:00:00 am
Decaption Date: 01-Jan-1960 12:00:00 am
Decaption Note:
Disposition Action: n/a
Disposition Approved on Date:
Disposition Case Number: n/a
Disposition Comment:
Disposition Date: 01-Jan-1960 12:00:00 am
Disposition Event:
Disposition History: n/a
Disposition Reason:
Disposition Remarks:
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Format: TEL
From: TOKYO
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Litigation Codes:
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Original Classification: UNCLASSIFIED
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Original Previous Classification: n/a
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Review Date: 16-Sep-2004 12:00:00 am
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SAS ID: 3611053
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TAGS: TPHY, EQIP, JA
To: STATE
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